GEOGRAPHIC SCHOOL BULLETINS

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Ewing Galloway

ROSELLE STALKS ENTER A TWO-MAN TEXTILE MILL FOR PARAGUAY LINEN

One field in which Paraguay has large resources is that of fibers. From the pineapple-like *caraquata* the natives get a fiber for ropes. Roselle, a long-stemmed fiber plant of the hibiscus family, is processed somewhat like flax, in a backyard "mill" that is staffed by a couple of men with their wives to help. Each bundle of stems is crushed between two logs working nut-cracker-wise (above). Then the women strip off the broken husk, soak the inner pulp away, and obtain a coarse fiber which they weave into a sturdy fabric that might be called Paraguay's native linen. But cotton is the money crop for many farmers; in some years it has been the most valuable export of Paraguay (Bulletin No. 2.).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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Bases and Battlefields Skirt Libia's Coast

WHEN British troops first pushed invading Axis forces from Egypt back into Libia, when the Axis drove a spearhead into Egypt again, when the British pursued the fleeing army of General Rommel across Italy's Libian colony at the close of last year, the route each time skirted Libia's Mediterranean shores. Step by step like going upstairs and then coming down again, the successive campaigns passed through the same hot little port towns, which served as bases for receiving supplies by sea and in turn became battlefields. A quick survey of the larger ports of Libia's 1,400 miles of coast, from east to west, brings up many names that figured in the battle headlines of the past several years.

PORTO BARDIA (population, 2,370). Less than 10 miles from the Egyptian border, this well-protected port was made an important supply base by the Axis, with an airfield, gasoline storage tanks, radio station, and machine shops for repairs to trucks and other mechanized units. The harbor can accommodate medium-sized ships. At the beginning of the first World War, Porto Bardia (formerly known by the Arab name of Mersa Suleiman) was much used by German submarines, but Italians occupied the town for the Allies in May, 1916.

TOBRUCH (population about 4,000). About 80 miles west of Egypt, this small town and colonial army garrison has been built almost entirely since Italians occupied Libia. It has a scenic bay which runs two miles into the land, providing protected anchorage and serving as an Italian naval station.

DERNA (population 10,000). About 175 miles west of Egypt, Derna is on the northeastern curve of Libia's eastern bulge into the Mediterranean. This port has shipped wool, corn, wax, honey, and bananas—the latter cultivated on a large scale in well-watered oases in the vicinity. Its beauty has won it the name of "Pearl of Cirenaica." (The eastern section of Libia is called Cirenaica, the western one Tripolitania.)

BENGASI (population about 50,000). This is the capital, leading port, and chief naval and military base of Cirenaica, the eastern section of Libia. It lies about 350 miles west of Egypt, facing westward over the Gulf of Sidra. Like Tripoli, farther west, it is fronted by a superb sea esplanade. In peacetime, steamer routes connect it with Italy, and with Tripoli and Alexandria; it has had an air link with Tripoli. Two short railway lines join Bengasi with the important inland towns of Soluch and Barce. The white town, with a new harbor, covers a narrow peninsula between the sea and two salt lakes.

SIRTE (population about 2,500). This tiny mid-Libian port stands on the western curve of the Gulf of Sidra. Although grain, cotton, and oil normally are shipped from its poor harbor, it is chiefly important for the many desert caravan routes which radiate inland from it.

MISURATA (population about 5,000). A garrison town of growing commercial importance situated 125 miles east of Tripoli, Misurata has been headquarters of an Italian district commissioner. Carpets, grain, oil, and dates are peacetime exports. The port is a slightly protected open roadstead about 7 miles from the town proper.

HOMS (population about 2,500). A small, neat, modern seaport, with markets and mosques, Homs lies about 60 miles east of Tripoli. Grass and grain

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S-SHAPED PARAGUAY HAS A RIVER AXIS BY THE SAME NAME

Named, like Uruguay, for its principal river, this country could be said to revolve around the 1,800-mile Paraguay, which serves in turn as eastern and western boundaries and as a waistline link in addition. The other river artery of this landlocked nation is the upper Parana on the east border, already 2,000 miles long when it meets the Paraguay. The Confuso, true to its name, is shallow and shifting, of no commercial use.

The numerous Puertos along the Paraguay's upper reaches show the importance of river ports in a country where land travel is limited. The chief railway, about 270 miles long, cuts across the southwestern corner from Asunción to Encarnación and Argentina. Other lines are spurs that tie up with river, not rail, transportation, such as that from Puerto Casado through the Mennonite colonies.

After Asunción, the capital and principal city, the next largest is Villarrica in the southeast, with some 35,000 people.

The Chaco owes its name to an Inca word for "hunting ground." That it has also been a battleground is reflected in its numerous Fortins (forts). After the Chaco War with Bolivia in the 1930's, the present Chaco boundary was set by arbitration in 1938. Earlier arbitration of the boundary with Argentina by the United States president, Rutherford B. Hayes, is commemorated by the name of the town—Villa Hayes, pronounced "Eyes" by Paraguayans (Bulletin No. 2).

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Inland Paraguay a Potential Garden Spot

(This is the fifth of a series of bulletins, with maps and illustrations, on the republics of Latin America.)

PARAGUAY is perhaps the least known of all the South American republics. It has the fewest inhabitants and the least foreign trade. Surrounded by Brazil, Argentina, and Bolivia, it is completely landlocked; moreover, its leading port, Asunción, the capital, is nearly a thousand miles from the sea.

Yet Paraguay also is favored by nature in ways that give promise of future development. Although only about 1,350,000 people live within its area of some 170,000 square miles, it has been estimated that the country could support 20 million inhabitants. The climate is mild yet varied, though the northern third is in the tropics. The soil is fertile and rain is plentiful. Paraguay's broad grasslands, deep forests, and mineral deposits offer the geographic basis for a prosperous and balanced national economy.

The Chaco a "Wild West" Frontier Country

Physically, Paraguay is split into two distinct regions (map, inside cover). East of the broad Paraguay River lies Paraguay proper—a heavily forested hilly area which holds most of the people and their commercial resources. West of the river is the sparsely settled Chaco Boreal, Paraguay's "wild west" frontier land. Its grassy plains, swampy in spots, are dotted by palms and patches of scrub vegetation, and cut by sprawling, shifting rivers that bring yearly floods.

In the developed east, the Paraguayans make their living chiefly by farming, lumbering, and stock raising. The livestock population is some four times the number of human inhabitants. Exported cattle hides and canned meat provide a large share of the national income, with additional trade items of cotton, sugar, and tobacco. Quebracho extract for tanning leather and oil of petitgrain (a perfume base from the leaves of a bitter orange) are specialty exports, as is also yerba maté, source of the pungent and popular "Paraguay tea" (illustration, next page). A newcomer among Paraguay's shipments to the U. S. is tung oil, now helping to substitute for tung oil formerly supplied by China.

For their own use, the Paraguayans raise considerable corn, rice, beans, sweet potatoes, bananas, and manioc, a starchy root from which the natives make a food like tapioca. So far there is little mining, although Paraguay is believed to possess varied mineral deposits, including iron, mercury, copper, and manganese.

Each House Has Its Brook

In Paraguay, as the saying goes, "each town has its river, each house its brook." Two mighty rivers, the Parana and the Paraguay, provide flowing highways through the center and around the eastern and southern rims. On the Paraguay stands the capital and chief port, Asunción, with about one-tenth of the country's population. Fairly large vessels can navigate the Paraguay above the capital—situated about 240 miles from the river's mouth—for 185 miles farther north, to Concepción. There is now a through railroad line from Asunción to Buenos Aires. Paraguay also has several airports.

The Paraguayans are intensely nationalistic. Racially, the largest group is the result of the merging of Spanish and Guarani Indian blood. Important among the

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crops are exported. The splendid ruins of ancient Leptis Magna, important Roman walled city, are 1½ miles away. Baths, temples, and amphitheater have all been cleared to recall the vast scale of early Roman colonization in North Africa. Roman ruins abound all along the Libian coast.

TRIPOLI (population more than 105,000). Capital of Tripolitania and the seat of government for all Libia, Tripoli stands on a promontory, with its busy port on the east side protected by long moles. Behind the rising terraces of the white city spreads a great green oasis. Italians built the new city, to which gardens, public buildings, parkways, and a magnificent sea esplanade impart an atmosphere of smartness and freshness. Numerous sea and air services have connected the city with Italy. From Tripoli, many important caravan routes reach south through the desert.

COAST ROAD. The great new paved military highway, which runs all along the coast of Libia from Tunisia to Egypt, has been the backbone of the colony and the supply line for its battles. It connects all the above-mentioned ports. A regular schedule of bus services is maintained in normal times.

Note: The coast of Libia and its string of ports may be studied on the National Geographic Society's Map of the Theater of War in Europe, Africa, and Western Asia. A price list of maps may be obtained from the Society's headquarters in Washington, D. C.

For further information, see "Old-New Battle Grounds of Egypt and Libia," in the *National Geographic Magazine* for December, 1940.

Bulletin No. 1, January 11, 1943.

Harriet Chalmers Adams

ONCE THE INVADERS, LIBIA'S ARABS HAVE OFTEN SINCE BEEN THE INVADED

Since the mid-7th century, successive floods of invasion have brought numbers of Arabs into North Africa. Libia especially was overrun in the 11th century, when several tribes spread through the land, each man given a camel and a gold piece and told to help himself to land. Now modern warfare along Libia's coast disturbs the home oases of swarthy Arabs, like these Bedouins in the caravansery on Bengasi's outskirts. Burned by the sun, these barefoot desert dwellers have brought to town on camel back their bags of produce to barter or sell—wool or barley usually. The striped bags are woven of homespun camel's or goat's hair.

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Chad, Mid-African French Colony, Named for "Breathing" Lake

THE French colony of Chad in central Africa, usually cut off from commerce and remote from world affairs, entered the war news when an expedition assembled there for a long trek across the Sahara Desert to strike against Axis forces in North Africa. It is in the Chad area that the Sahara's southern fringes merge into "livable country" of French Equatorial Africa to the south.

Wedged in between French West Africa and Nigeria on the west, and the Anglo-Egyptian Sudan on the east, and bordered on the north by the warring desert reaches of Libia, this colony is the northern division of French Equatorial Africa. It has an area of approximately a half-million square miles, nearly twice that of Texas. It has less than a million people, in contrast with the 6,500,000 of Texas.

It is a land of spectacular contrasts—hot deserts, low marshes, grassy plateaus, and sky-reaching mountains. One of the highest peaks in the Sahara stands in the northwest corner of the Chad Colony near the southern desert border of Libia. It is volcanic Emi Koussi, rising over 11,000 feet in the Tarso Mountains of the Tibesti region.

Lake Shrinks or Spreads with the Weather

Lake Chad, on the southwestern edge of the colony, is a most unusual lake. Fed by many streams and drained by none, it is one of the world's few fresh-water lakes having no outlets. Most lakes without outlets, like the Great Salt Lake, become brackish and salty as their waters evaporate and leave deposits of minerals. But in the case of Lake Chad, the feeder streams pass through soil which is practically devoid of salt, and vegetation growing along the swampy and island-studded shores tends to absorb what little salt might find its way into the lake waters.

And Lake Chad is a "breather." It expands its coastal chest with every filling rain and sucks in its shoreline in dry seasons. Its waters once spread over a much larger area, but drifting sands from the Sahara are causing the lake to shrink more every year. In wet seasons it is almost 200 miles long and at its widest part measures about 100 miles, approximately the size of Lake Huron. In extremely dry seasons the waters often shrink to half this length and breadth. The lake is shallow, nowhere more than 15 feet deep, but navigable. Small steamers cruise on the deeper parts. Natives, the Buduma people, living on the many small islands, travel in light canoes made of bundles of papyrus stalks tied together.

Fort Lamy Is Important Air Base

In the low, fertile black soil lands of the Bodele Depression, in the west-central part of the colony, the natives grow tobacco, cotton, forage grasses, and patches of vegetables. Parts of this region are given over to grazing, which means there the raising of not only cattle but camels and ostriches as well. The Bodele Depression drains the wadis, or seasonal streams, from the Tibesti region to the north, and underground water is plentiful.

A few miles south of Lake Chad, on the important southern feeder river, the Chari (Shari), is Fort Lamy, administrative center of the colony. It has some 10,000 inhabitants, and is an important air base and hub for caravan trails and automobile roads. The war-important main highway linking French Equatorial Africa with the shipping center of Khartoum on the Nile, runs eastward from Fort

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many immigrant groups which have helped rebuild Paraguay's population losses are the Mennonites, mostly from Canada, with a few from the western U. S. Others are Germans, Austrians, Czechs, Russians, Italians, and French.

Spaniards settled early in what is now Paraguay. Asunción was founded in 1537, as a way station between the Atlantic and the wealth of Peru. Paraguay's discontent with Spanish rule brought in 1721 an uprising that went down in history as the first colonial revolt against Spain. Independence was won in 1811.

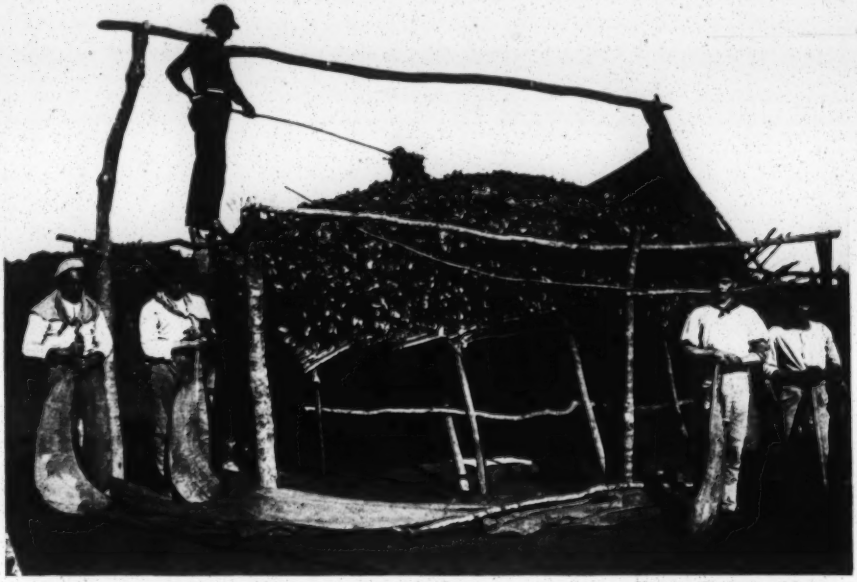
A buffer nation by location, Paraguay has suffered much from foreign wars. Between 1865 and 1870 it fought alone against the united forces of Brazil, Argentina, and Uruguay. Roughly, half of Paraguay's population died during the war, and at the end the country lost more than 50,000 square miles of territory.

Between 1932 and 1935 came the war with Bolivia, over petroleum-rich territory in the Chaco Boreal. Arbitration in 1938 awarded Bolivia the areas known to contain oil, while Paraguay received the bulk of the land—some 92,000 square miles, that made Paraguay's area exceed California's.

Note: Paraguay may be located on the National Geographic Society's Map of South America.

For further information on Paraguay, see "River-Encircled Paraguay," in the *National Geographic Magazine*, April, 1933; and these GEOGRAPHIC SCHOOL BULLETINS: "La Plata River Plays Part in Western Hemisphere Defense," February 3, 1941; and "Gran Chaco Peace More Than Doubles Area of Paraguay," November 11, 1938.

Bulletin No. 2, January 11, 1943.



Harriet Chalmers Adams

INSTEAD OF MEAT, THIS BARBECUE COOKS A DRINK, THE "GOURD WEED" TEA

Guarani Indians long have enjoyed a hot drink brewed from what they called *caa*, the "weed." Spaniards translated the name as yerba, or "herb." Yerba turned out to be the toasted leaf of an evergreen tree that looks like the orange but is a relative of the holly. The drink is sipped through a tube (*bombilla*, or "little pump") from a decorated dried gourd, or maté. Now drink and leaf are known internationally as yerba maté, literally the "gourd weed," or, like the gourd, simply as maté. Leafy branches of the yerba maté tree are smoked and toasted for as long as 24 hours at the *barbacua* (above), the wooden curing rack mounted above a smoldering fire. Next the dried and brittle leaves are pounded into fine particles with the jumbo wooden paddles held by the four men in the foreground. Possibly ten million South Americans drink yerba maté. Even in parts of coffee-growing Brazil an average man may use 40 pounds of maté a year.

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Casein Can Make Miss Muffet a Modern Glamor Girl

LITTLE Miss Muffet, eating her curds and whey, could move from Mother Goose into the up-to-date plastics industry and feel perfectly at home. Today she may eat her curds and wear them too, for casein—made of skim milk curds—is a raw material now used in textile, cosmetics, and plastics industries. United States laboratories are inventing so many new casein products that there is a shortage of skim milk for curds. Casein is even being imported from Argentina.

The Latin word for cheese (*caseus*), another milk product, gave casein its name. Ancient Egyptians have left papyrus records of using casein to make paint, somewhat as modern manufacturers do. Two German printers, about 1897, experimented with casein as a coating for cardboard to produce a smooth, glossy, milk-white surface. They discovered that formaldehyde turned it hard and waterproof. Their process is still the basis of what is now an extensive industry.

Milk Magic Turns Curdled Liquid into a Solid

What is casein? It exists in milk as a protein substance that surrounds the particles of butterfat. After the cream and butterfat have been taken out, the casein remains in the skim milk which for long was an unimportant by-product, often fed to livestock.

To obtain the casein, skim milk is curdled by the use of rennin or an acid, such as hydrochloric or sulphuric. The curdled milk separates into curds and whey—the stage to which Miss Muffet's first acquaintance with milk chemistry had progressed. The whey is drained off, leaving curds to be dried and ground into the white powder which is the commercial form of casein, ready for processing. It takes about 3½ gallons of milk to make a pound of casein.

This is one of the older members of the modern family of plastics—those substances which can be formed into a shape which they will retain. (The Greek verb *plassein,* meaning "to form," gave current speech this word, as well as "plaster," an early example of a plastic substance.) Many types of articles can be made from casein plastics, such as combs, tortoise-shell eyeglass frames, buttons, cigarette holders, and umbrella handles.

"Milk" Fur and "Milk" Wool from Casein Chemistry

Transforming the dry white powder into a bright red button, or some other plastic product, begins with combining the casein powder with dye and water and kneading the mixture into a dough. The soft damp mixture then can be pressed into molds of the desired shape. The molded object thus obtained must then be hardened and rendered as waterproof as possible by soaking in formaldehyde. When dried and allowed to season, the milk-made button is ready to use. Casein plastics can be machined and polished like wood. They are fireproof, and can be substituted for inflammable celluloid in many products. There is no limit to the variety of colors and shades in which they can be made.

Other uses for casein include "sizing" cloth and yarn, making cold-water paints somewhat as the Egyptians did, making waterproof glues for bookbinding, woodwork and plywood, and construction of certain parts of airplanes. Casein also forms the base for some cosmetics, and is an ingredient in shoe polishes. For long it has put the gloss on fine printing papers, like that used by the *National Geographic Magazine.*

Bulletin No. 4, January 11, 1943 (over).

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Lamy. This key road, following closely the route traveled by early caravans, skirts the desert, passes through Abeshr, and on through the province of Kordofan in the Anglo-Egyptian Sudan.

Geography Teacher Explored Region

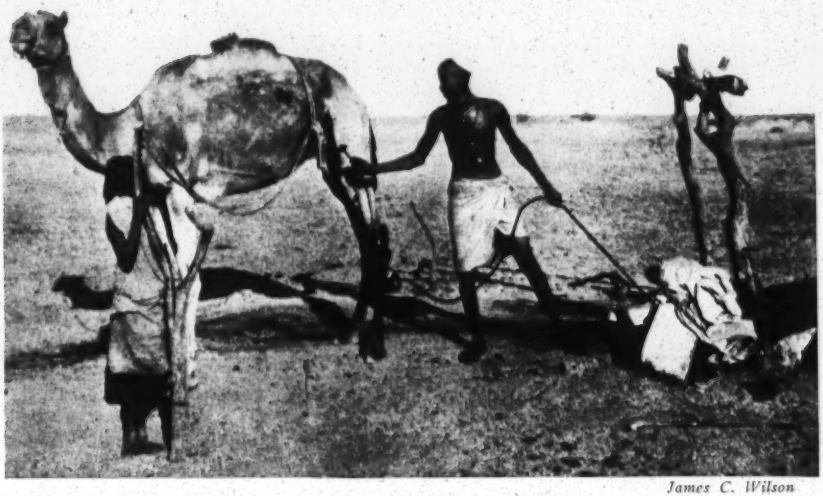
The Chad region was first explored by the British in 1823 when an expedition sponsored by the government crossed the Sahara from Tripoli. In 1850 the British sent into the region another expedition in which they attempted to interest both France and Germany. France declined. Germany, however, accepted, and sent along Barth, a lecturer on geography, and Overweg, a young chemist. Barth made the first geographical investigation of the Chad country.

During the last quarter of the 19th century the British, French, and German empires aspired to own the Lake Chad area. The French succeeded in annexing the territory, and all German claims were ended when the Allies redistributed Germany's colonies after World War I. But Italy carved off a northern slice of the Chad colony in 1935, under the Pact of Rome, taking over some 50,000 square miles in the Tibesti region, as well as additional territory adjoining the southern border of Libia. These areas were recovered by the French, however, in the spring of 1939.

Note: Chad (Tchad) Colony is shown on the National Geographic Society's Map of the Theater of War in Europe, Africa, and Western Asia.

For further information on the Chad Colony, see "Three-Wheeling Through Africa," *National Geographic Magazine*, January, 1934; and in the GEOGRAPHIC SCHOOL BULLETINS: "Chad, French Lakeside Colony of the Congo," March 24, 1941.

Bulletin No. 3, January 11, 1943.



James C. Wilson

WITH THE CAMEL'S AID, PRECIOUS WATER IS "MINED" FROM THE DESERT

Lake Chad marks the borderline—or water line—between the parched north and the watered south of Chad Colony. Typical of the thirsty desert reaches of the north is Wadai, a drought region near the eastern border of the colony, where all vegetation is burned away by the merciless sun although water still runs underground. The Wadai tribes sink wells as deep as some mine shafts—100 to 200 feet into the earth—to reach the layers of water more precious than gold. To draw it up in buckets of goatskin, they attach the well rope to a camel, who pulls the bucket up as he walks away.

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Geo-Graphic Brevities

U.S.S.R.'S NALCHIK WAS CAUCASUS RESORT TOWN

AS A high-water mark on their drive southward into the Caucasus Mountains, Nazi forces operating in the south of the U.S.S.R. captured the mountain city of Nalchik. This is the capital of the double-barreled republic of Kabardino-Balkaria, one of the patchwork of 16 small autonomous states that crowd the Caucasus Isthmus as members of the U.S.S.R. The miniature nation, spread along the northern slopes of the main Caucasus ridge, combines the high Balkarian valleys with the lower sheep- and cattle-breeding region of Kabardia, of which Nalchik is the commercial as well as political headquarters.

Twenty-five years of Soviet government in the U.S.S.R. have brought many changes to Nalchik, although it has remained primarily an agricultural center. First of the changes was an experiment in education (illustration, next page). A second change for Nalchik was its development as a Caucasus resort town. Situated near two of the highest peaks in the Caucasus Mountains, Elbrus (18,471 feet) and Ushba (15,400 feet), in the center of a mineral springs district, it is connected by a railroad spur with the Moscow-Baku line. Sanatoriums and hotels have sprung up on the south edge of the town. Noted for its mountain vistas and its clean air and sunshine, Nalchik is the starting point for excursions to near-by gorges, glaciers, and summits of mountains that are the highest in all Europe.

Nalchik is on a small plateau at the 1,600-foot level of the Caucasus foothills, and normally has a population of some 23,000. Before the war the inhabitants of the plateau included many German farmers who have now been deported as potential fifth columnists.

The Republic of Kabardino-Balkaria has about 359,000 inhabitants. Most of them are Kabardines, of ancestry related to the Arabs. They have been practicing the progressive methods of agriculture introduced by the Soviet Five-Year Plans.

Note: Nalchik is shown on the National Geographic Society's Map of the Theater of War in Europe, Africa, and Western Asia.

For further information on the Caucasus region, see "Roaming Russia's Caucasus," in the *National Geographic Magazine*, July, 1942; and these GEOGRAPHIC SCHOOL BULLETINS: "The Frosty Caucasus Wall, Russia's Mountain Rampart," November 2, 1942; and "Sixteen Miniature 'Nations' Crammed into Russia's Caucasus," October 12, 1942.

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RÉUNION ISLAND, ISOLATED BIT OF FRANCE IN INDIAN OCEAN

RÉUNION Island, France's Indian Ocean island which has been taken over for the United Nations by South African troops, is a land where earthquakes, geraniums, and vanilla are produced with equal ease. This last island of France's empire to remain under Vichy control is some 430 miles east of Madagascar in the Indian Ocean. Off the beaten path, it is a remote slice of France.

A mountainous oval mass 39 miles long and 28 miles wide, Réunion varies its climate according to altitude. Peaks in the central region rise 10,000 feet. From the hot coast to the cool highlands, plant life reflects the changes in temperature. From the town-rimmed shore to the forest zone stretches the sugar cane country. Beyond the forest is the mile-high plateau where European vegetables grow. Snow is rare. Rain falls in torrents between November and April. Rivers then overflow their banks, only to dwindle to rivulets in the dry season.

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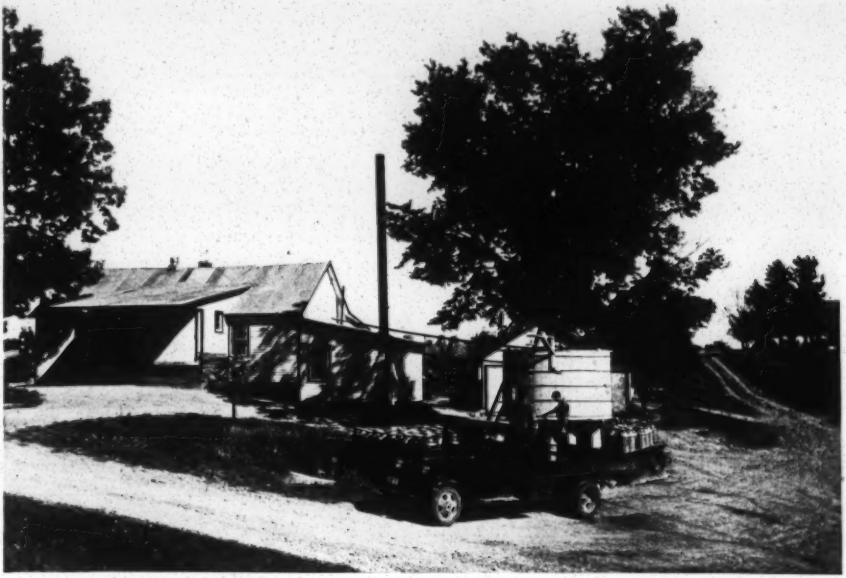
Moreover, casein magic is actually pulling the rabbit out of felt hats and turning the gentle dairy cow into a wool-bearing animal. The idea of making a cloth fiber from milk is at least forty years old, but not until the past decade was an acceptable fiber produced for the textile industry. This is made by chemically treating and heating casein until it has the syrupy consistency of honey. Then, as with rayon, it is forced under pressure through tiny holes from which it emerges in fine, gummy threads. Further chemical treatment makes the casein fiber soft and luxurious, resembling the fluff of the milkweed plant. This milk fiber can then be used like wool, blended with wool and rayon, or spun with cotton, mohair, or fur. More expensive than cotton or rayon, it is strong, takes and holds dyes well, and withstands laundering.

Blankets, draperies, and upholstery materials are being made of fabrics employing the milk fiber. Its first and most general use was in short fur-size lengths for making felt hats. Replacing Belgian and Polish rabbit fur for this purpose, it is said to have "taken the rabbit out of the hat."

So Miss Muffet—now grown up—may wear a milk-fiber hat and a milk-fiber suit. She may have her hair waved by having it protected with milk-fiber strips instead of other cloth strips before heat is applied for a permanent. From the gay red bird on her hat to the bright yellow buckles on her shoes, she may be ornamented with plastic doodads molded from casein, including beads, buttons, and lapel pin. Even her cosmetics may be of milk-powder base.

Note: For further information about plastic products, see "Chemists Make a New World," in the *National Geographic Magazine* for November, 1939.

Bulletin No. 4, January 11, 1943.



B. Anthony Stewart

WHEN IS A DAIRY A WOOLEN MILL? WHEN MAKING CURDS FOR CASEIN WOOL

Casein, in name as well as chemistry, is a first cousin to cheese, both coming from the curds in skim milk. After the dairy farmer unloads the morning's milk cans on the platform beside a typical Wisconsin cheese factory, the milk is skimmed of cream and butter, and the residue is curdled with chemicals. Then the curds can be separated from the whey that Little Miss Muffet knew. The whey is stored in the wooden tank above the loading platform (right of center), so that the farmer can return home with whey to feed his hogs. The curds, according to the market demands of the season, can be made into cheese or dried and ground up into casein powder. This powder can be shaped into fibers to be woven like wool or felted like fur into a hat.

In spite of the tropical heat of the lowlands, most of the 210,000 islanders live in communities along the coast, some 30,000 in St. Denis, the capital. Other ports are St. Paul, St. Louis, St. Pierre, and Pointe des Galets, the latter having the only natural harbor on the island. From these ports came exports of sugar, rum, vanilla, tapioca, starch, coffee, aloe fiber, and geranium essence. The island has an 85-mile railway, and telegraph and telephone systems.

Réunion's history is as varied as its landscape. Discovered in 1545 by a Portuguese, Mascarenhas, the island bore his name until 1643, when it was claimed for France and renamed Bourbon Island. Colonization began in 1664. During the French Revolution the island was named Réunion, but with the rise of Napoleon it became Ile Bonaparte. The English seized it in 1810, gave it back in 1815, and Réunion again emerged as its official name.

Réunion has been administered as a department of France through a governor and consul general. Three delegates traveled the 7,500 miles to Paris to represent the island in the French Parliament. Their constituents are Frenchmen, British, Indians, Chinese, Africans, and natives of Madagascar. To Réunion France has sent political exiles, notably, in 1926, Abd el Krim, famous Riff leader, who had led opposition to the French in North Africa.

Note: Réunion is shown on the National Geographic Society's Map of the Indian Ocean.

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Sovfoto

U.S.S.R. MILKMAIDS AND COWBOYS STUDY THEORY WITH PRACTICE IN SIGHT

The little mountainside republic of Kabardino-Balkaria, of which Nalchik is capital, is a self-governing member of the Soviet Union, on the north slopes of the Caucasus Mountains where stock-raising and farming are the foremost occupations. Previously a backward region with little education, under the Soviet regime this state has developed a university which includes schools of agriculture, industrial training, teacher training, and a "school of the Soviet Party." These students, many of them adults, were photographed before the war attending a summer outdoor class in scientific animal husbandry beside a rich pasture. Horses and cows of improved stock, driven up for the summer to green mountain pastures from collective farms on the lower slopes, supplied examples of the principles being studied from the textbooks with colored charts. Now that the region is enveloped in war, the students are likely to be fighting against the invaders.

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